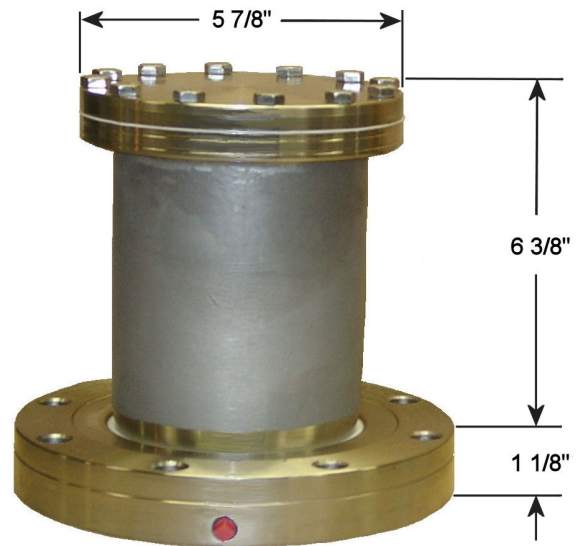


# Chemical Hydraulic Valve

**INTERNAL VALVE**

The Internal Chemical Hydraulic Valve is designed for use with a wide variety of chemicals. It is an internal self-closing stop valve, therefore it does not require under carriage crash protection. Available elbows are supplied with shear sections to meet 49CFR 178.345-8(a)(4). A heavy mounting flange is provided to insure a flat surface for a positive seal. A replaceable Teflon® seat and a replaceable stem are provided for ease in repairing a damaged valve.

The 1/8 NPT Hydraulic connection is located on the outside of the mounting flange. 1,500 psi minimum hydraulic line pressure is required to operate the valve, but do not exceed 4,000 psi hydraulic line pressure. See section 35 page 3D & 3E for Betts Hydraulic Pump.



See section 35 Page 5D for parts list

Description	Assembly No.	Material *	Flange O.D.	Bolt Circle	Bolt Holes	Temp. Range	MAWP	Wt.
Internal Hydraulic Valve	CH47003SST	316 Stainless	8 $\frac{3}{16}$ "	7 $\frac{1}{4}$ "	8 - $\frac{9}{16}$ "	-40° F to +400° F	50	31#
	CH47003LHT	316 SS w/Hastelloy® trim**						

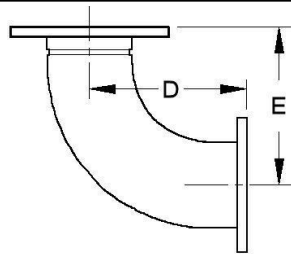
NOTE: A flat mounting surface must be provided for the valve. Recommended mounting pad with extended studs is MP19741LC found in Section 40 Page 1A.

\* Material listing is for all wetted surfaces exposed to product during normal operation of valve.

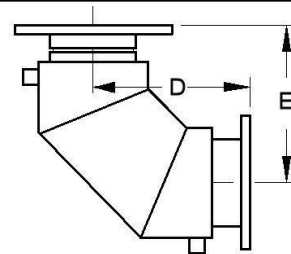
\*\* Hastelloy® trimmed valve is an option that includes Hastelloy® C-22 overlay on the disc (5) in the area in contact with the seal (15). The Hastelloy® overlay reduces the potential of the disc pitting at the seat contact area.

Suffix "017" indicates Teflon Seat w/ Double Tef-Sil O-Ring.

## Available Elbows



Standard Elbow



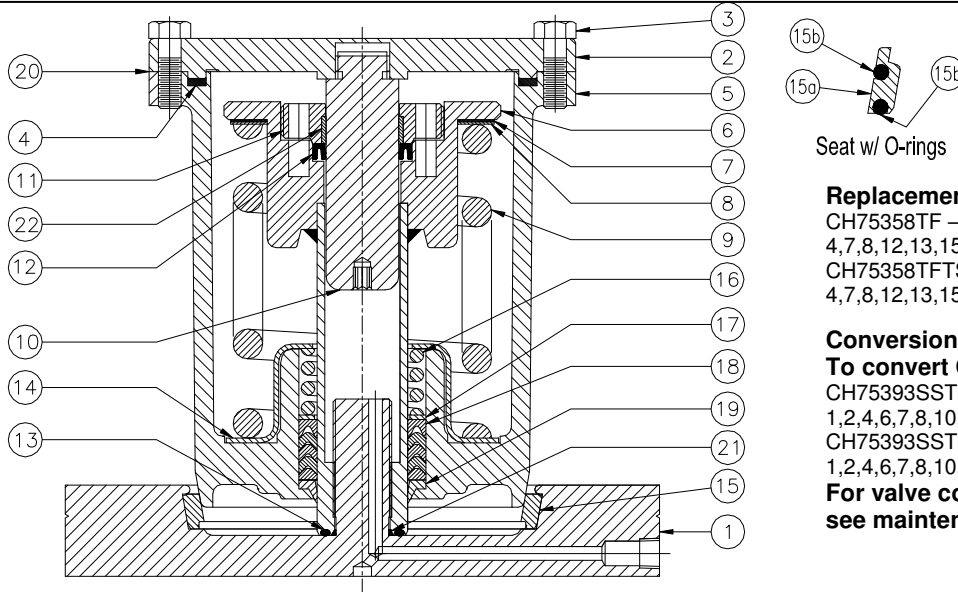
Steam Jacketed Elbow Steam Connections 3/4" NPT

Size	Elbow Description	Elbow Assembly No.	Material	D	E	Inlet Flange			Outlet Flange			Wt.
						O.D.	B.C.	Holes	O.D.	B.C.	Holes	
4 x 3	90° Elbow	CH26165SS	316 SS	4 $\frac{1}{2}$ "	4 $\frac{3}{4}$ "	8 $\frac{3}{16}$ "	7 $\frac{1}{4}$ "	8 - $\frac{9}{16}$ "	5 $\frac{5}{8}$ "	4 $\frac{7}{8}$ "	8 - $\frac{7}{16}$ "	9.4#
4 x 3	90° Elbow w/Steam Jacket	CH26166SS	316 SS						5 $\frac{5}{8}$ "	4 $\frac{7}{8}$ "		13.7#
4 x 4	90° Elbow	CH16859SS	316 SS	8 $\frac{11}{32}$ "	8 $\frac{11}{32}$ "				6 $\frac{5}{8}$ "	5 $\frac{7}{8}$ "	8 - $\frac{7}{16}$ "	11.8#
4 x 4	90° Elbow w/Steam Jacket	CH16826SS	316 SS						6 $\frac{5}{8}$ "	5 $\frac{7}{8}$ "		13.7#

Teflon Envelope Gasket G27229TF-MIL is recommended for use between valve and outlet elbow. See Section 40, Page 2A for dimensions.

# PARTS LIST

## INTERNAL CHEMICAL HYDRAULIC VALVE



### Replacement Kit of Teflon Parts

CH75358TF – Includes items  
4,7,8,12,13,15,16,17,18,19,20,21  
CH75358TFTS – Includes items  
4,7,8,12,13,15a,15b,16,17,18,19,20,21

### Conversion Kit

#### To convert CH45843SST to CH47003SST

CH75393SSTF – Includes items  
1,2,4,6,7,8,10,11,12,13,15,16,17,18,19,20,21,22  
CH75393SSTS – Includes items  
1,2,4,6,7,8,10,11,12,13,15a,15b,16,17,18,19,20,21,22

**For valve conversion instructions,  
see maintenance manual MM-CH005.**

No.	Description	Req.	Material	Part No.	No.	Description	Req.	Material	Part No.
1	Seat Flange	1	316 Stnls	46937SS	14	Packing Retainer	1	316 Stnls	19446SS
2	Cover Plate	1	316 Stnls	75160SS	15	Replaceable Seat	1	Teflon	16644TF
3	Cap Screw - Cover Plate	12	316 Stnls	9Q3305	15a	Replaceable Seat w/ O-rings		Kalrez	16644KA
4	Gasket - Cover Plate	1	Teflon	17295TF				Teflon	18897TFTS
5	Disc	1	316 Stnls Hast. C-22 Trim	27996LC001 28235LH001	15b	Seat O-ring only	2	Tef-Sil	18246TS
6	Stem/Spring Retainer	1	316 Stnls	75224SS				Kalrez	18246KA
7	Backup Shim-Spring	1	Teflon	16867TF	16	Spring-Stuffing Box	1	316 Stnls	19616SS
8	Shim-Spring	1	304 Stnls	16866SL	17	Follower Washer	1	316 Stnls	19594SS
9	Main Spring	1	316 Stnls	16890SS	18	Packing Rings	Set	Teflon	15759TF
10	Piston	1	303 Stnls	75161SL	19	Wiper - Suffing Box	1	Teflon	15862TF
11	Seal Retainer	1	316 Stnls	75162SS	20	Gasket - Cover Plate	1	Teflon	19720TF
12	Main Hydraulic Seal	1	PTFE/302SS	75207SSTF	21	O-ring - Stem Backup	1	Viton	3926VT
13	O-ring - Stem	1	Tef-Sil	75206TS	22	Bearing Ring	1	Teflon/Graphite	75455TF

### INSTALLATION INSTRUCTIONS:

- Mount valve on mounting pad.
- Connect Hydraulic line to 1/8" NPT fitting on O.D. of seat flange leaving fitting loose.
- Operate pump until all air is bled from system.
- Tighten fitting and refill pump reservoir.
- Inspect all fittings for leaks.

### WARNING:

Use only genuine BETTS INDUSTRIES, INC. replacement parts. Use of substitute parts can impair the proper function of this product and void all warranties.

### REBUILDING VALVE: (Betts recommends using parts kit CH75358TF when rebuilding valve).

- Remove cap screws (3). Cover plate (2) can now be removed. Discard gaskets (4) and (20). Inspect piston (10), if piston (10) is scratched or damaged it should be replaced.
- Remove seal retainer (11) and stem/spring retainer (6) with spanner wrench 75325MS. Remove hydraulic seal (12).
  - Inspect Stem/spring retainer (6); if stem is damaged or scratched it must be replaced.
- Lift disc (5) off seat flange (1) and remove all components remaining in disc (5).
- Replace seat (15), wiper (19), packing (18), spring-stuffing box (16), stem O-ring seal (13) and backup seal (21) with new parts included in kit.
- Reinstall packing retainer (14), main spring (9) and shims (6) and (7).
- Thoroughly coat threads of seat flange (1) with a high quality removable thread lock compound and insert stem/spring retainer (6) through packing (18) and thread onto hub of seat flange (1); tighten to 90 ft lbs.
- Insert new hydraulic seal (12) with lips facing inwards apply anti-seize compound and install seal retainer (11); tighten to 30 ft lbs.
- Install new gaskets (4) and (20) and bolt cover plate assembly (2) using cap screws (3); tighten cap screws to 40 ft lbs.

For more detailed instructions, see maintenance manual MM-CH005